

530, 495

Rec'd PCT 06 APR 2005

10/530495

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/034253 A2

(51) International Patent Classification⁷: **G06F 9/38**

(21) International Application Number:
PCT/IB2003/004327

(22) International Filing Date: 1 October 2003 (01.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02079219.8 11 October 2002 (11.10.2002) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SETHURAMAN, Ramanathan** [IN/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **SRINIVASAN, Balakrishnan** [IN/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven

(NL). **ALBA PINTO, Carlos, A.** [PE/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **PETERS, Harm, J., A., M.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **PESET LLOPIS, Rafael** [ES/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

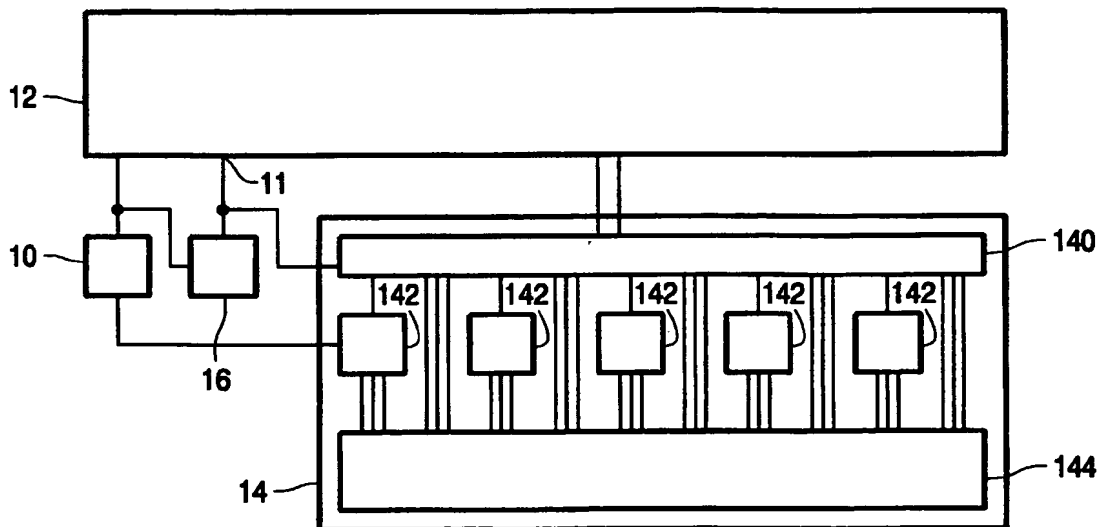
(74) Agent: **DE JONG, Durk, J.**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: **DATA PROCESSING APPARATUS ADDRESS RANGE-DEPENDENT PARALLELIZATION OF INSTRUCTIONS**



(57) Abstract: A data processing apparatus has an instruction memory system arranged to output an instruction word addressed by an instruction address. An instruction execution unit, processes a plurality of instructions from the instruction word in parallel. A detection unit, detects in which of a plurality of ranges the instruction address lies. The detection unit is coupled to the instruction execution unit and/or the instruction memory system, to control a way in which the instruction execution unit parallelizes processing of the instructions from the instruction word, dependent on a detected range. In an embodiment the instruction execution unit and/or the instruction memory system adjusts a width of the instruction word that determines a number of instructions from the instruction word that is processed in parallel, dependent on the detected range.

WO 2004/034253 A2